

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

TWO NEW LANDSHELLS FROM CALIFORNIA.¹

BY PAUL BARTSCH.

The United States National Museum has received two sets of landshells from Mr. Herbert N. Lowe, collected at Pt. Reyes, California, which prove to be undescribed races of *Epiphragmophora tudiculata* and *Epiphragmophora californiensis*.

In order to determine these, it was necessary to subject the members of both of these species to a critical examination, the results of which will be published in a paper now in preparation in which figures of the two new subspecies described below will be given.

Epiphragmophora tudiculata awania, new subspecies.

Shell very small, elevated helicoid dark horn colored, streaked with fine retractively slanting lines of brown and an occasional dark varicial streak. There is also a slender brown spiral band present at the periphery, which is edged on either side by a lighter zone. Nuclear whorls one and a half feebly wrinkled and obsoletely granulose. Postnuclear whorls well rounded, appressed at the summit, marked by coarse retractively slanting wrinkles, the last one and a half turns being decidedly malleated. The middle whorls show a few fine spiral striations near the summit. Base inflated, strongly rounded, marked by the continuation of the axial wrinkles and strong malleations. Aperture large, subcircular, oblique; peristome slightly expanded and reflected, white; interior of the aperture pale brown, when viewed directly, horn colored when seen by transmitted light, showing the peripheral band and the two lighter zones bordering it.

The type, Cat. No. 336,831 U. S. N. M., and two specimens were collected by Mr. Herbert N. Lowe, on the steep southern slope at the extreme west end of Pt. Reyes, California, under plants of *Mesembranthemum* in May, 1918. The three specimens yield the following measurements:

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No. Whorls.	Altitude.	Greater diameter.
5.3	13.4	16.4 Type
5.3	12.0	15.9
5.3	13.4	15.8

***Epiphragmophora californiensis miwoka*, new subspecies.**

Shell of medium size, pale horn colored, extreme apex a little lighter than the rest, marked at the periphery by a chestnut band which is not bordered by lighter zones. Nuclear whorls small, one and a half, finely wrinkled and minutely papillose. Postnuclear whorls strongly rounded, the summit of the succeeding turns falls slightly anterior to the peripheral dark band of the preceding turn, so that this appears in the suture. The whorls are crossed by coarse wrinkles which are decidedly retractively slanting. Between these wrinkles are finer threads which are granulose, the long axes of the granules corresponding in disposition with the lines of growth. In addition to this a few obsolete incised spiral lines are present near the summit. The last turn has all these sculptural elements and in addition is strongly malleated. Periphery and base somewhat inflated, strongly rounded, the latter narrowly umbilicated and marked by coarse wrinkles, but here the fine papillations on the lesser wrinkles are much enfeebled excepting immediately behind the aperture, where they are equally strong. Aperture large, oblique, broadly oval; peristome expanded and partly reflected, white; interior of aperture bluish white, showing the peripheral color band within.

The type, Cat. No. 336,832, U. S. N. M., and ten specimens of this species were collected by Mr. H. N. Lowe at Pt. Reyes, Calif., in May, 1918. Five of these taken at random yield the following measurements:

No. whorls.	Altitude.	Greater diameter.
6.2	17.1	22.1 Type
6.8	18.2	21.0
6.4	17.7	20.8
6.1	15.9	20.8
6.6	16.5	22.2